Management of Brown Planthopper in rice

Recognize the problem
The brown planthopper (BPH) is an insect pest of rice in Terai. BPH is a small brown insect found mainly on the base of rice plants above the water level. Adults and young suck the plant sap from leaf sheathes, causing yellowing of lower and then upper leaves. Whole areas can die in patches which are said to be affected by "hopper burn". It can cause total yield loss when its attack is severe.

Background
This pest is favoured by moist, humid and warm conditions, staggered rice planting, presence of ratoons from the previous rice crop and high doses of urea. Usually, many natural enemies (e.g. spiders, ladybird beetles and mirid bug) attack this pest, keeping its population below damaging levels. Unnecessary and frequent application of insecticides can trigger its population growth by killing the natural enemies. Weekly inspection for this pest and its natural enemies on the lower part of stems and the water surface is necessary as this pest builds up very rapidly in a short time.

Management
Preventive measures:
• Avoid staggered planting and destroy ratoons of the previous rice crops in your village
• Use a balanced dose of fertilizer. Apply Urea, DAP and MOP at the rate of 6.4 Kg, 2.2 Kg and 1.7 Kg per Katha respectively
• Avoid dense planting by planting rice seedlings at 20cm X 20cm apart
• Do not apply insecticides unnecessarily

Control measures:
When there is one or more brown planthoppers per tiller and when fewer natural enemies than pests are seen, then management of this pest is necessary.
• Drain water completely from the field for a week. Then apply intermittent (weekly) irrigation to reduce the BPH population.
• Spray a neem based insecticide e.g. Azadirachtin @ 3-5 ml per litre or chloropyrifos 20% EC @ 1.5 ml per litre or imidacloprid 70%WG @ 1g/10 litres of water on the lower part of stem of rice plant

If brown planthopper attack occurs after milking stage, it will be too late to damage yield so there is no need to apply insecticides.

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > Nilaparvata lugens

The recommendations in this factsheet are relevant to: Nepal

Authors: Rajiv Das Rajbhandari
SPPO, PRMD

Edited by Plantwise.

Plantwise is a global initiative led by CABI
©CAB International. Published under a CC-BY-SA 4.0 licence.